



Bombay Natural History Society

HORNBILL HOUSE, (MUSEUM COMPOUND).
SHAHEED BHAGAT SINGH ROAD,
BOMBAY 400 023

Ref: 3138/86/

11th Sept. 1986

R.J. Ranjit Daniels, Esq.,
Centre for Ecological Sciences
Field Station
Sahyudei Colony
Sirsi
Karnataka 581402.

Dear Sir,

Sub: Ants of Karnataka (Hymenoptera: Formicidae)

Further to our acknowledgement of your above note. I give below the referees comments and also draw attention to the fact that we have a large number of insect articles pending publication and see no chance of publication of your paper, if accepted, before 3 to 4 years.

- a. The Abstract may be deleted.
- b. The author has quoted the work of Bingham 1903. The contributions on the fauna of ants of Karnataka from scattered literature should be included and this aspect is missing.
- c. For each of the species collected, locality, date of collection, name of collector and number of specimens studied should be included and the information given for each species does not convey much details.
- d. It is not known where the specimens have been deposited because such information would be essential for someone to refer to these species at a later date, if necessary.
- e. The authenticity of identification of the species has not been indicated. It is likely that in an elaborate study of this nature, one may come across new and interesting species."

Yours faithfully,

J.C. Daniel
Curator

A. N. S.
Centre for
Ecology
1+3 only

ANTS OF KARNATAKA
(HYMENOPTERA: FORMICIDAE)

R.J.Ranjit Daniels
Center for Ecological Sciences
Indian Institute of Science
Bangalore-560 012

Abstract

There may be more than a hundred species of ants (Hymenoptera: Formicidae) in Karnataka. A two-year collection of ants from parts of Karnataka has helped identify 77 species. These species fall into 33 genera and 6 subfamilies. Details of colour and

size have been given for each species. Wherever ^{necessary} appropriate the place of collection has also been mentioned. Any important or unique field observation made on ~~some species~~ of ants find a place along with ~~the~~ morphological descriptions. Unless ^{SS} ~~the~~ _{their}

These ants

specified, all descriptions apply to the workers only. Wherever the workers exist in more than one morphs, the minors have been described.

Ants of Karnataka
(Hymenoptera: Formicidae)

Nearly 500 species of ants have been identified and described from the Indian sub-continent by C.T. Bingham (1903). Of these, how many occur in Karnataka is something unknown. My guess is that there will be well over a 100 species of ants in Karnataka. This may be an underestimate as it is based just on a two-year collection of ants made in parts of Karnataka mostly confining it to the north-western parts of the state (North Kanara). The 77 species of ants thus collected and identified fall into 33 genera and 6 subfamilies. Each of these 77 species has been briefly described in the text that follows. The nomenclature is based on Chapman and Capco (1951). Names within parantheses are the old names. Unless specified, all descriptions given in the text apply only to the neuters or workers and in those where they exist in more than one forms, to the 'minors'. Details of size and colour in almost all cases have been given based on the actually collected specimen.

✓
✓
✓
Subfamily DORYLINAE Leach

This subfamily of ants is remarkable for the great variation between the workers, males and the females (queens). The workers and the females are blind. The Doryline ants are commonly known as the 'army ants'.

Genus *Dorylus* Fabricius

The characteristic distinguishing feature is the pedicel being one-jointed.

1. *Dorylus orientalis* Westwood

Males: Brownish-yellow with sooty wings; wasplike in appearance; ca., 22 mm; often attracted to light.

2. Dorylus labiatus Shuckard (fig. 1)

Reddish brown, ~~blind~~; 5-8 mm; smooth and shining.

In parts of North Kanara, this species is known to invade houses.

Genus Aeniticus Shuckard

Pedicle two-jointed.

3. Aeniticus pachycerus Fred. Smith (fig. 2)

Reddish brown; ca., 3 mm; sculpturing coarse, absent on abdomen; antennae with 10 segments, club of 4 segments.

Subfamily PONERINAE Lapeletier

The ants of this subfamily have a distinct depression between the basal two segments of the abdomen. All ants carry a powerful sting and are predaceous.

Genus Leptogenys Roger

Claws pectinate; stridulatory organs present; march in processions and prey on termites.

4. Leptogenys (Lobopelta) ocellifera Roger

Deep red appearing glossy black; ca., 9 mm

5. Leptogenys (Lobopelta) chinensis Mayr

Black; ca., 10 mm

Genus Odontomachus Latrielle

Large head; long mandibles bent apically; antennal hollow wide and spreading upwards.

6. Odontomachus haematoda (haematodes) Forel (fig. 3)

- 3 -

Black appearing red against light; ca., 10 mm; winged female >12 mm.
The long mandibles are held horizontally spread while the ants forage. Collected from Kasargod (Kerala) a coastal town south of Mangalore.

Genus *Bothroponera* Mayr

Head quadrangular; meso-metanotal suture obsolete; abdomen massive.

7. *Bothroponera rufipes* Jerdon

Deep red appearing black; ca., 18 mm; sculpturing coarse; pilosity (hairiness) dense.

When held with a forceps, the ants eject a long stream of froth through the sting. The significance of this is not known. A species of the forest floors in North Kanara.

Genus *Diacamma* Mayr

Head oval; node of pedicel armed with two spines.

8. *Diacamma rugosus* (*vagans*) Forel

Black with a bronzy sheen; ca., 15 mm; sculpturing in the form of fine striations all over; pubescent.

A common species. Nest-holes are lined with feathers and moulted skins of hairy caterpillars.

Genus *Ectomomyrmex* Mayr

Head flat, emarginate posteriorly; suture on mesothorax separates episternum from sternum.

9. *Ectomomyrmex leeuwenhoekii* Forel (fig-4)

Black, reddish on tarsus; ca., 8 mm.

10. *Ectomomyrmex annamita* (*annamitus*) Forel

Iridescent black; ca., 6 mm.

Genus Harpegnathos Jerdon

Head rectangular, emarginate posteriorly; long sickle-shaped mandibles with a strong tooth at the masticatory margin.

11. Harpegnathos (Drepanognathos) saltator Jerdon (fig. 5)

Red, abdomen black; legs yellowish; ca., 16 mm

Solitary ants on forest floors; can leap like spiders.

I have observed this species dragging spiders paralysed by stinging to the nest.

Subfamily PSEUDOMYRMINAE Emery

This subfamily of ants is characterised by the genus Tetraponera which was earlier known as Sima and included in the subfamily Myrmecinae (Bingham, 1903)

Genus Tetraponera Smith

Head rectangular; mandibles bent vertically downwards; metanotum raised and convex; abdomen long and cylindrical; sting exerted. Tree-dwellers.

12. Tetraponera aitkeni Forel

Glossy black; appendages yellow; pilosity sparse; ca., 4 mm.

13. Tetraponera rufonigra Jerdon

Black and red; ca., 10 mm.

Common in orchards and in forests. Sting is very painful.

14. Tetraponera nigra Forel

Black, legs yellowish; ca., 7 mm.

Subfamily MYRMECINAE Lepeletier

This subfamily is distinguishable from the others by the presence of two jointed pedicel in all sexes of the ants belonging to it. The genus Aeniticus (Dorylinae) which also has two joints in its pedicel is blind and hence can not be mistaken.

Genus Cataulacus Fred. Smith

Well-armoured, tree-dwelling ants; antennae 11-jointed; club 3 segmented.

15. Cataulacus latus Forel

Black; >6 mm.

16. Cataulacus taprobonae Fred. Smith

Black with yellow legs; ca., 2.5 mm.

Genus Crematogaster Lund

Tree-dwelling; ~~make~~ papery nests; antennae 11-jointed; club of 2, ~~to~~ 3 or 4 apical joints.

When disturbed, the ants curl their abdomens above the thorax and make a rush at the intruder. The nests are often taken over by Rufous woodpeckers (Micropternus brachypterus).

17. Crematogaster brunnea (subnuda, contemp^uta) Forel

Yellowish-dark brown; 3.5-4.5 mm.

One small colony was collected occupying a partly excavated praying mantis ootheca from near Bangalore. Rest of the ootheca was alive.

18. Crematogaster rothneyi Mayr

Red; ca., 3 mm; sculpturing coarse.

19. Crematogaster biroii Forel

Red-yellow, darkening towards ^s the tip of abdomen; ^e < 2 mm; sculpturing mild.

20. Crematogaster dohrni (rogenhoferi) Mayr

Chestnut-dark brown; 3.5-5 mm; sculpturing ^r _h stiate.

21. Crematogaster wroughtoni Forel

Yellowish-brown; 3.5-4.5 mm; pilosity dense; sculpturing mild.

Genus Leptothorax Mayr

Head prominent; antennae 12-jointed; club of 3 segments; pilosity in the form of clavate ^h hairs; metanotal spines often present.

22. Leptothorax sp,

The specimen collected ^{were} are variable in ^{size} ~~size~~ (ca., 2 mm) and colour (yellowish-dark brown). The species identity could not be determined.

Genus *Meranoplus* Fred. Smith

A genus of grotesque looking hairy ants; antennae 9-jointed; club 3-segmented; antennal furrow deep; thorax angular; notum carries more than a pair of spines.

23. *Meranoplus bicolor* Guerin

Red, abdomen darker; ca., 3.5 mm; pilosity very dense.

24. *Meranoplus belli* Forel (fig. 6)

Red; ca., 3.5 mm; sculpturing coarse; pilosity long and dense; abdomen cordate.

Genus *Myrmicaria* Saunders

Antennae 7-jointed; no club; metanotal spines long.

25. *Myrmicaria brunnea* Saunders

Red, abdomen black; ca., 8 mm; sculpturing coarse on head and thorax; pilosity fair.

A common species building large funnel-shaped mounds at the foot of trees. While foraging, keeps the abdomen tucked between the legs.

Genus *Aphaenogaster* Mayr

Slender long-legged ants; antennae 12-jointed; head narrow posteriorly.

26. *Aphaenogaster beccarii* Emery

Red, abdomen black; ca., 6.5 mm; sculpturing ~~fine~~ fine; pilosity long and erect.

Genus *Pheidole* Westwood

~~Over~~ A very large genus of grain-eating ants; visit houses and stores; workers have two distinct morphs; the larger with massive heads are the soldiers; antennae 12-jointed; club 3-segmented (exceptions occur); metanotal spines present.

27. *Pheidole rhombinoda* Mayr

Deep red, abdomen black; ca., 4 mm; sculpturing punctate.

28. *Pheidole fergusoni* Forel

Red, abdomen black; ca., 4 mm; sculptured all over.

29. *Pheidole constanciae* Forel

Red, head and abdomen darker; appendages yellowish; ca., 2 mm; meso-, metanotum and pedicel punctate.

30. *Pheidole jucunda* (fossulate) Forel

Red, nearly black; abdomen black; ~~ca., 4 mm~~; appendages paler; ca., 4 mm; sculpturing punctate except abdomen; pilosity fair.

31. Pheidole mus Forel

Pale honey; < 2 mm; sculpturing absent on abdomen; pilosity fair.

32. Pheidole malinisi Forel

Soldier: Deep red, abdomen black; ca., 6.5 mm; sculpturing longitudinally striate; metanotal spines short; pilosity long and dense.

33. Pheidole phipsoni Forel

Nearly black; > 3 mm; metanotal spines reduced to tubercles; sculpturing absent on head, prothorax and abdomen.

34. Pheidole nietneri Emery

Dark honey, appendages paler; ca., 2 mm; punctate on meso-, metanotum and pedicel; pilosity long and scattered.

35. Pheidole roberti Forel

Yellowish; ca., 2.5 mm; metanotal spines small and triangular.

Soldier: Red, legs paler; 4.5 mm; sculpturing coarse; pilosity long and scattered; metanotal spines prominent.

Genus Lophomyrmex Emery

This genus resembles Pheidole. However, the thorax is raised above the head and ~~is~~ is angular. Monomorphic workers; antennae 11-jointed.

36. Lophomyrmex quadrispinosus Jerdon (fig. 7)

Yellowish, abdomen black; ca., 3 mm; pronotum with an anterior pair of spines; metanotum with long posterior spines; sculpturing fine; pilosity fair.

Genus Pheidologiton Mayr

Resembles Pheidole; dimorphic workers; antennae 11-jointed; club 2-segmented.

37. Pheidologiton diversus Jerdon

Blackish; 2.5 mm; coarsely punctate except on prothorax, head and abdomen; pilosity long scattered hairs.

38. Pheidologiton affinis Jerdon

Chestnut, abdomen black; ca., 2 mm; eyes reduced to just a dot; head, prothorax and abdomen smooth and shining; pilosity scattered erect hairs.

Genus Trigonogaster Forel

Head anteriorly truncate; antennae 11-jointed; club 3-segmented; abdomen triangular, flat on top.

39. Trigonogas ter recurvispinosa Forel (fig. 8)

Yellow; ca., 2 mm; metathoracic spines curved upwards.

Genus Monomorium Mayr

Head elongate and rectangular; antennae 11 or 12-jointed; club 3-segmented; metanotum without spines; clypeus bicarinate.

40. Monomorium destructor Jerdon

Yellowish, abdomen darker; < 2 mm; smooth; pilosity sparse.

41. Monomorium pharaonis Linnaeus

Orange, abdomen black; ca., 2.5 mm; sculpturing fine; abdomen smooth; pilosity sparse.

42. Monomorium (Holocomyrmex) criniceps Mayr

Red, head and abdomen darker; 3.5-4 mm; club faint; sculpturing fine; pilosity sparse.

43. Monomorium (Holocomyrmex) sabriceps Mayr

Red, abdomen nearly black; ca., 3 mm; abdomen smooth, the rest finely sculptured; pilosity scarce.

44. Monomorium glaber (Holocomyrmex glabrum) Forel

Red, abdomen darker; ca., 4 mm; very similar to M. criniceps except that in ~~set~~ glaber pilosity is abundant.

45. Monomorium minutum Forel

Blackish; ca., 2 mm; smooth on head, pronotum and abdomen; pilosity scarce.

46. Monomorium atomus Forel

Pale yellow; < 1.5 mm; antennae 11-jointed; a smooth ant.

47. Monomorium wroughtoni Forel

Red, abdomen black; ca., 2 mm; sculpturing absent on abdomen; pilosity sparse.

Genus Solenopsis Westwood

Antennae 10-jointed; club 2-segmented; metanotal spines absent; workers dimorphic.

48. Solenopsis wroughtoni Forel

Yellow, abdomen darker; ca., 1.5 mm; eyes almost absent; sculpturing fine; pilosity and pubescence mild.

49850. Solenopsis spp.

Reddish yellow; >1 mm; sculpturing mild; pilosity as scattered erect hairs.

Yellow, abdomen black; ca., 2 mm; smooth.

Genus Vollenhovia Mayr

Head somewhat squared; antennae 11-jointed; club 3-segmented; metanotum unarmed.

51. Vollenhovia sp.

Yellowish; ca., 2 mm; smooth and shining; pilosity sparse.

Genus ⁰Tetramorium Mayr

Head rectangular; antennae 11 or 12-jointed; club 3-segmented; metanotum with an additional pair of spines at the ~~lateral~~ posterior lateral angles.

52. Tetramorium mixtum Forel (fig. 9)

Red (blackish); ca., 2 mm; sculpturing coarse, absent on abdomen; pubescent.

Subfamily DOLICHODERINAE Forel

This subfamily can be distinguished from ^Ponerinae by the absence of the constriction between the first and second abdominal segments and from the ~~Camponotinae~~ ^{Camponotinae} (Camponotinae) by the anal orifice being transverse and not circular nor ciliated. Pedicel 1-jointed.

Genus Dolichoderus Lund

Head short, as broad as long; cheeks very concave; antennae 12-jointed; scape long; metanotal spines absent; viewed from the sides, meso-metanotal suture seems very deep and widely emarginate.

53. Dolichoderus bituberculatus Mayr

Red, abdomen black; ca., 3 mm; sculpturing fine on head, coarse on thorax; pubescence mild. Specimen were collected from ~~betelnut~~ betelnut (Areca catechu) palms in Sirsi.

Genus Bothriomyrmex Emery

Head nearly square; antennae 12-jointed; node of pedicel very small and ^{and} inclined forward.

54. Bothriomyrmex myops Forel

Honey, legs paler, abdomen darker; ca., 1.5 mm;

The specimen examined was badly damaged and hence doubtfully identified as myops.

Genus Tapinoma Forster

Head broad, posteriorly transverse; antennae 12-jointed, filiform; pedicel with flat node, strongly inclined forward.

55. Tapinoma melanocephala ~~Fabricius~~ Fabricius

Head and thorax black, appendages paler, abdomen almost white; ca., 2 mm; sculpturing and pubescence mild;

The common small ~~a~~ stinking ant entering houses; particularly fond of sugar.

56. Tapinoma indicum Forel

Black, appendages paler; ca., 1.5 mm; pubescence mild;

Forages along tree trunks.

~~x~~ Subfamily FORMICINAE (CAMPONOTINAE) Lepeletier

The ants belonging to this subfamily are believed to be socially most evolved. The diagnostic features are the 1-jointed pedicel, the circular orifice and the cilia round the orifice.

Genus Acantholepis Mayr

Head quadrangular; antennae 11-jointed, ^{and} filiform; metanotum and node of pedicel bidentate.

57. Acantholepis capensis Forel (fig. 10)

~~Black~~; > 2 mm; metanotal and nodal dentition prominent; pilosity fair.

58. Acantholepis simplex Forel

Very similar to A. capensis; ca., 2 mm; the metanotal dentitions are reduced to tubercles. ^{and nodal}

The two species are considered to be only subspecies of the same species.

59. Acantholepis pulchella (opaca) Forel (fig. 11)

A variable species; yellow-brown, abdomen black with a bronzy sheen; ca., 2 mm; the metanotal and nodal spines are acute and well developed; almost smooth; pilosity sparse.

Genus Anoplolepis Santschi

A genus of ants separated from the genus Plagiolepis (Chapman & Capco, 1951)

60. Anoplolepis (Plagiolepis) longipes Jerdon

Yellow-red; ca., 4 mm; scape very long; almost smooth; pilosity has sparse scattered hairs.

~~See~~ A common and widespread species; fast running; found on forest floors and on trees.

11

Genus *Plagiolepis* Mayr

Antennae 11-jointed; metanotum and node of pedicel without spines; abdomen massive.

61. *Plagiolepis exigua* Forel

Honey, black head, paler abdomen; ca., 1.5 mm; sculpturing and pubescence mild.

62. *Plagiolepis rothneyi* Forel

Black, appendages paler; ca., 3 mm; node of pedicel small; smooth and shining; pubescent.

Genus *Prenolepis* Mayr

Mandibles with long apical tooth; antenna 12-jointed; antennae arise from close to the upper margin of the clypeus; pro-meso- and meso-metanotal sutures very distinct; node of pedicel inclined forward.

63. *Prenolepis longicornis* Latreille

Brown, appendages paler; >2 mm; smooth; pilosity sparse and scattered. The common fast-running ants seen inside houses. Nest under pots in damp places and keep shifting eggs and larvae during the rains.

64. *Prenolepis navarroi* (navarroi) Forel

Brown, appendages paler; >3 mm; smooth and shining; pilosity sparse, a few long hairs.

Distinguished from the former by the presence of a thoracic depression.

Genus *Oecophylla* Smith

Head & roundly quadrangular; mandibles long; antennae 12-jointed; mesonotum constricted; pedicel long; workers dimorphic.

65. *Oecophylla smaragdina* Fabricius

Yellow-red; ca., 7 mm (major: 10 mm)

Queen: Beautiful pale green; ca., 15 mm.

The common red ants building nests with leaves; often a nuisance in orchards; very widespread.

Genus *Camponotus* Mayr

Generally large ants; antennae 12-jointed; shape of thorax variable; workers dimorphic; ~~pedicel~~ abdomen oval; most species of this genus tend aphids.

66. *Camponotus compressus* Fabricius

Black, legs reddish; >10 mm (major); tibiae compressed.

The common 'black ant'.

67. *Camponotus variegatus* (mitis) Fred. Smith

Colour variable; yellowish-dark honey brown; 7-9 mm; sculpturing fine; pilosity sparse.

68. Camponotus rufoglaucus (paria, dolendus) Emery

Colour variable; generally black; ca., 7 mm (winged female: 12 mm); pubescence fine and silver y on abdomen.

69. Camponotus angusticollis (fig. 12) Jerdon

Black, appendages red; ca., 13 mm (ca., 18 mm major); prothorax narrows to form a distinct neck.

A large black ant seen in the forests of North Kanara. Occasionally near houses also.

70. Camponotus taylori Forel

Red, head and abdomen darker; ca., 8 mm (major); sculp^turing fine; pubescence expressed on abdomen.

71. Camponotus confucii Forel

Black, opaque; ca., 5 mm; metanotum raised; sculpturing and pubescence mild.

72. Camponotus sericeus Fabricius

Black with golden pubescece on abdomen; ca., 7.5 mm; the posterior face of the metanotum emarginate appearing dentate.

A common ant~~x~~ recognised by its fast movement and golden abdomen.

73. Camponotus forseronis Forel ~~6~~ fornaronis Forel

Brown, abdomen black, ~~legs~~ legs paler; ca., 5 mm; thorax arched; ~~and~~ scape of the ant^ennae flattened; sculpturing and pubescence mild.

Genus Polyrhachis Smith

A genus of arboreal ants; thorax and node of pedicel generally carry well-developed spines.

74. Polyrhachis simplex Forel (fig. 13)

Black; 6-7 mm; pronotum and ~~meta~~ ~~and~~ metanotum bear spines; node has two long spines with a pair of projections inbetween; sculpturing, fine; abdomen smooth.

75. Polyrhachis clypeata Mayr (fig. 14)

Black, appendages paler; ca., 6 mm; metanotal spines short; node has 4 spines, the middle ^{two} erect; sculpturing and pubescence fine.

76. Polyrhachis striata Mayr (fig. 15)

Black with a dense ~~of~~ silvery pubescence; ca., 8 mm; lateral angles of pronotum with two long spines; node of pedicel with a pair of long outwardly pointing spines;

A species found in the evergreen-semievergreen forests of North Kanara. Sits on the leaf surfaces and drop down when disturbed.

77. Polyrhachis furcata Fred. Smith (fig. 16)

Deep red and black; ca., 4 mm; pro- and metanotal spines long; the spines on the node of the pedicel are curved backwards; sculpturing very coarse, absent on abdomen; pilosity as dense white hairs.

A species of the evergreen-semievergreen forests of North Kanara. Specimen were~~e~~ collected from low bushes.

References

- 1) Bingham, C.T. (1903) The Fauna of British India, Hymenoptera, - vol. II., Taylor and Francis, London, pp 506.

- 2) Chapman, J.W. and Capco, S.R. (1951)
Checklist of the Ants (Hymenoptera: Formicidae) of Asia. Manila Bureau of Printing, Manila. pp 327.

D: FROGS & ANTS
22.8.90

A LIST OF ANTS COLLECTED FROM THE UTTARA KANNADA DISTRICT,

KARNATAKA - INDIA

R. J. Ranjit Daniels
Centre for Ecological Sciences
Indian Institute of Science
Bangalore
India 560 012

The Uttara Kannada district (= North Kanara/Canara) is one of the northern districts of the state of Karnataka in India. Lying between $13^{\circ} 55' N - 15^{\circ} 32' N$ latitude and $74^{\circ} 05' E - 75^{\circ} 05' E$ longitude it covers a total area of $10,291 \text{ km}^2$. It forms a part of the narrow Malabar where its location is almost central. The Western Ghats in this district are separated from the Arabian sea in the west by a narrow coast running over 100 km north-south. The hills are generally low ranging between 400 and 600 m above sea level with occasional peaks as high as 850 - 1000 m. The average annual rainfall is 250 cm. This however varies from over 300 cm in the western side and over the hilly ridge gradually dropping to 200 cm and 100 cm progressively eastwards as the district merges with the Deccan plateau. March to May the district is the driest with maximum day temperatures reaching $38^{\circ} C$. The lowest winter temperature hitherto recorded in the district is $11.9^{\circ} C$.

Three broad vegetation types are predominant in the district. They are the moist evergreen-semievergreen forests, the moist deciduous forests and the dry deciduous forests. There are several associated vegetation formations such as coastal mangrove, riverine forests, slope forests, freshwater forest swamps, bamboo facies/brakes, etc which naturally exist besides

the several man-made/modified vegetation stands such as secondary/degraded forests which are as thickets, grasslands and monocultures of teak, betelnut, coconut, cashewnut and the Australian pine, blue gum and wattle (Daniels, 1989).

The following list is of those ants collected from the evergreen forests and associated monocultures such as teak, betelnut and blue gum between 1983 and 1985 within the district. Appropriate comments have been made on the localities, especially for those collected extraliminally. All specimens have been housed in the insect museum at the Centre for Ecological Sciences. ~~totally~~ ^{Newly} ~~77~~ ⁸⁰ species have been listed representing 33 genera and 6 subfamilies. Nomenclature and keys followed are that of Chapman & Capco (1951) and Bingham (1983) respectively. ^{Approximate}

^{light} ~~light~~ ^{marks} ~~marks~~ ^{give} ~~give~~ ^{is} ~~is~~ ^{for} ~~for~~ ^{workers} ~~workers~~ ^{unless} ~~unless~~ ^{the} ~~the~~ ^{ants} ~~ants ^{are} ~~are~~ ^{species} ~~species~~. Nos in ~~Parthen~~ ^{Parthen} indicate, ~~with~~ ^{with} in ~~with~~ ^{with}.~~

Dorylinae

1. *Dorylus orientalis*

Winged adults attracted by light. Sirsi. ^{major ♂} 22 mm

2. *Dorylus labiatus*

Invades houses in Sirsi. ^{worker} 5-8 mm

3. *Aeniticus pachycerus* ^{worker} 3 mm (104)

Ponerinae

4. *Leptogenys ocellifera* 9 mm (31)

5. *Leptogenys chinensis* 10 mm (8)

6. *Ddantomachus haematoda* 10 mm (12 mm wj ♀)

These ants were collected from a garden in Kasargod (Kerala state), a coastal town south of the district of Uttara Kannada.

7. *Bothropouera ruficeps* 18 mm (80)

When held with forceps, the ant ejects a long stream of froth

through the sting. A species of the forest floor.

8. *Diacamma rugosus* 15 mm (53)

Common in Bangalore.

9. *Ectomyrmex leeuwenhoekii* 8 mm (12)

10. *Ectomyrmex annamita* 6 mm (56) (110)

11. *Harpegnathos saltator* 16 mm

Solitary ants on forest floor. Leap like spiders. Drag paralysed spiders like wasps to their nests. *Ant hill.*

Pseudomyrmecinae

12. *Tetraponera aitkeni* 4 mm (111)

13. *Tetraponera rufonigra* 10 mm (52) (98)

Common in orchards and forests.

14. *Tetraponera nigra* 7 mm

Myrmecinae

15. *Cataulacus latus* 6 mm (94, 120)

16. *Cataulacus taprobanee* 2.5 mm (119)

17. *Crematogaster brunnea* 3.5-4.5 mm (65) (107)

A small colony had occupied a partly excavated notheca of a praying mantis. Praying mantis nymphs hatched out later (Daniels, et al., 1989). Collected at Hesarghatta near Bangalore.

18. *Crematogaster rothneyi* 3 mm (11)

19. *Crematogaster birori* 2 mm (27)

20. *Crematogaster dohrni* 3.5-5 mm (54) (83) (87) (103)

21. *Crematogaster wroughtoni* 3.5-4.5 mm (65)

22. *Leptothorax* spp 2 mm (81, 82, 84, 101)

23. *Meranoplus bicolor* 3.5 mm (99)

24. *Meranoplus belli* 3.5 mm (121)

Common in forests. Occasionally near habitation.

70. *Camponotus taylori* 8 m (14)
71. *Camponotus confucii* 5 m (86, 96)
72. *Camponotus sericeus* ? 7.5 m (43) (13)

Common.

73. *Camponotus fornaronis* ? 5 mm (118)
74. *Polyrachis simplex* 6-7 m (2)
75. *Polyrachis clypeata* 6 - (47, 59, 72)
76. *Polyrachis striata* 8 m (48)

A species found commonly on the leaves of understorey shrubs in evergreen-semievergreen forests.

77. *Polyrachis furcata* 4 mm

78. *Polyrachis* sp (115) 7.5 m

A species of evergreen-semievergreen forests of the district.

Collected from low bushes.

References

- Bingham, C.T. (1903) *The Fauna of British India: Hymenoptera* - Vol. II. Taylor and Francis, London, pp 505.
- Chapman, J.W. and Capco, S.R. (1951) *Checklist of the Ants (Hymenoptera: Formicidae) of Asia*. Manila Bureau of Printing, Manila, pp 327.
- Daniels, R.J.R. (1989) *A Conservation Strategy for the Birds of the Uttara Kannada District*. PhD Thesis, Indian Institute of Science, Bangalore.
- Daniels, R.J.R., Hegde, M. and Vinutha, C. (1989) Observations on the biology of the praying mantis *Creobater urbana* Fabr. (Orthoptera: mantidae). *J. Bombay Nat. His. Soc.* 86 p 329-332

R Gyin 2 - 4.2
R Gy 3 - 2.0

R Kuba - 2.3

B ml 2 - ~~2~~ 4.0

B ml 3 - 4.2

25. *Myrmicaria brunnea* 8mm (6)

Common.

26. *Aphaenogaster Deccari* 6.5m (15)

27. *Pheidole rhombinoda* 4m (10)

28. *Pheidole fergusoni* 4m (16)

29. *Pheidole constanciae* 2m (1)

30. *Pheidole jucunda* 4m

31. *Pheidole mus* 2m (19)

32. *Pheidole malinisi* 6.5m (30)

33. *Pheidole phipsoni* 3m (33, 43)

34. *Pheidole vietneri* 2m (37)

35. *Pheidole roberti* 2.5-4.5m (105)

36. *Lophomyrmex quadrispinosus* 3m (44)(67)

37. *Pheidologiton diversus* 2.5m (60)

38. *Pheidologiton affinis* 2m (78)(92)

39. *Trigonogaster recurvispinosa* 2m (73)

40. *Monomorium destructor* 2m (17)

41. *Monomorium pharaonis* 2.5m (24)

42. *Monomorium criniceps* 3.5-4m (35)(42)

43. *Monomorium sabriceps* 3m (41)

44. *Monomorium glaber* 4m (32)

45. *Monomorium minutum* 2m (70)(114)(113)

46. *Monomorium atomus* 1.5m (25)

47. *Monomorium wroughtoni* 2m (109)(112)(113)

48. *Solenopsis wroughtoni* 1.5m (46)

49. *Solenopsis* sp 1m (40)

50. *Solenopsis* sp 2mm

51. *Vollenhovia* sp 2mm (100)

47a. *Monomorium* sp 1.5mm (116) 4

52. *Tetramorium mixtum* 2 mm (18)(79) 52 a *Tetramorium* sp 1.5 mm (117)
~~52a. *Leptothorax* (sp 81, 82, 84) 2 mm (101)~~
Dolichoderinae

53. *Dolichoderus bituberculatus* 3 mm

Collected from betelnut palms in Sirsi.

54. *Bothriomyrmex myops?* 1.5 mm (45)

55. *Tapinoma melanocephala* 2 mm (90)

Common inside houses. Stinks when crushed. *

56. *Tapinoma indicum* 1.5 mm (76)

From trees in Sirsi.

Formicinae

57. *Acantholepis capensis* 2 mm (28)

58. *Acantholepis simplex* 2 mm (38)

59. *Acantholepis pulchella* 2 mm (89)(108)

60. *Anoplolepis longipes* 4 mm (61)

Common on forest floors.

61. *Plagiolepis exigua* 1.5 mm (34)

62. *Plagiolepis rothmeyri* 3 mm (95)

63. *Prenolepis longicornis* 2.5 mm (5)(26)(74)

Common in domestic environs and gardens.

64. *Prenolepis navarroi* 3 mm (69, 85)

65. *Oecophylla smaragdina* 7-10 mm (58)

Common even in open forests.

66. *Camponotus compressus* 10 mm (2)

Common black ant.

67. *Camponotus variegatus* 7-9 mm (4, 71, 97) com in + and fine in in forest.

68. *Camponotus rufoglaucus* 7 mm (w/♀ 12 mm) (13)

69. *Camponotus angusticollis* 13-18 mm (50)(51)

FARM

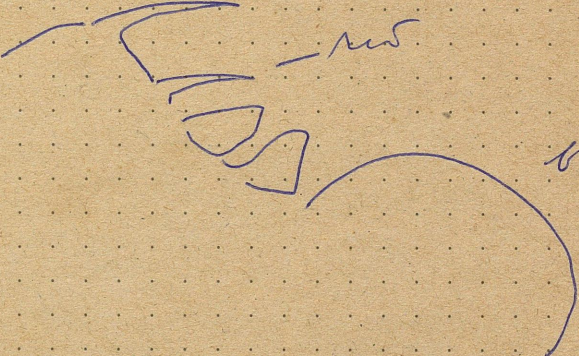
ANTS

5.4.95

SITE 7

① Camponotus - \bar{c} dentate propodeum ①
ret heat + hairy / brgy
abdom

② Caprotia - bim - small + slender
metapleural orifice about ②

③ Meranoplus sp  ret
w/ abdm
hairy

④ ant \bar{c} 12 Ants
- Monomorium spp. honey etc \bar{c} darker abdm

⑤ Pheidole ① - dark effa bim \bar{c} no dent. br/spines
on propodeum

SITE ①

- ① Campoplex ①
 - ② Prionolepis
 - ③ Crematopartea
 - ④ Monoctonus — Same as last.
 - ⑤ Pheidole e Spinus or propodeus ②
-

SITE ②

- ① Campoplex ①
 - ② Monoctonus (as in the last.)
 - ③ honey bees Solenopsis (abdomen same as last.)
-

SITE ③

- ① Campoplex ①
- ② Monoctonus (as other)
- ③ Pheidole ant. spin.
- ④ Solenopsis (as last)
- ⑤ Prionolepis (as earlier)

Site (4)

- ① Carpenter ⑨ sub & bl abn. Plank.
 - ② Acanthopneuste Pheidole int spines (as before)
 - ③ Solenopsis (as last)
 - ④ Pheidole (small) - ③
 - ⑤ Prenolepis (as last)
-

Site (A)

- ① Carpenter ①
- ② Carpenter ②
- ③ Carpenter ③
- ④ Acanthopneuste ① as last
- ⑤ Solenopsis as last